

IN THE SPECIFICATION:

In the Title, at page 1, line 1, please delete "GENETIC MARKER FOR SPONDYLOEPIMETAPHYSEAL DYSPLASIA", and insert therefor:

a'  
--3-PHOSPHOADENOSINE-5-PHOSPHOSULFATE (PAPS)  
SYNTHETASE PROTEINS AND METHODS FOR TREATING  
OSTEOARTHRITIC DISORDERS--.

At page 1, line 4, before "Background of the Invention", please insert the following:

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B  
--This application is a division of U.S. Serial No. 09/399,212 filed September 17, 1999, and is further related to U.S. Serial No. \_\_\_\_\_, filed July 2, 2001, which is a division of U.S. Serial No. 09/399,212.--.

IN THE CLAIMS:

Please cancel Claims 1-40 and 46-101, without prejudice, as being directed to designated claim Groups I, II, III and V. Please cancel Claims 41-45 and 102-108, without prejudice, and add new Claims 109-120 as follows:

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Sub D  
a<sup>3</sup>  
-- 109. (New) An isolated PAPS synthetase protein comprising a polypeptide having an amino acid sequence of (SEQ. ID. NO.:7), (SEQ. ID. NO.:8), or an antibody binding fragment of either of these at least 6 amino acids long.

110. (New) A PAPSS2 fusion protein, comprising:  
a first PAPSS2 polypeptide segment comprising an amino acid sequence of (SEQ. ID. NO.:7) or a gene-specific antibody binding fragment thereof at least 6 amino acids long; and  
a second predetermined polypeptide segment.

111. (New) The fusion protein of Claim 110, wherein the PAPSS2 polypeptide segment is encoded by a nucleic acid segment having a nucleotide sequence of (SEQ. ID. NO.:9) or a gene-specific fragment thereof.

112. (New) A Papss2 fusion protein comprising: